Lower Duwamish Waterway Source Control Project

King County International Airport Slip 4 Early Action Site Source Control

Monitoring Report - June 2006 Stormwater Vault Sediment Sampling

Prepared for the

King County Department of Transportation Airport Division

by the

King County Department of Natural Resources and Parks Wastewater Treatment Division

October 2006



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1. Introduction

In early 2007 a decision will be reached whether potential sources of chemicals of concern are sufficiently controlled to allow sediment remediation to proceed at the Slip 4 early action site. The most important pathway for chemicals to be transported to Slip 4 is through stormwater runoff from surfaces containing target chemicals originating from current or historic practices.

The stormwater basin that drains to Slip 4 includes properties leased or owned by Boeing, King County, and the City of Seattle.

In support of Lower Duwamish Waterway sediment remediation source control, this monitoring report covers the field and laboratory activities associated with sediment sampling of stormwater structures at the King County International Airport (KCIA). King County performed this work to evaluate if portions of KCIA contain target chemicals in sufficient amount to cause a concern for the potential recontamination of sediments at the Slip 4 early action site.

2. STUDY AREA

The KCIA portion of the Slip 4 drainage basin encompasses the northern portion of KCIA. The KCIA basin is further divided into several sub-basins that drain to individual stormwater vaults. These vaults are large underground concrete structures that are designed as oil-water separators. However, due to their size, they also slow the linear velocity of stormwater and provide a degree of particle settling. The oil retention feature of these structures also can result in increased levels of petroleum hydrocarbons in the bottom sediments. Therefore, because of the particle settling and oil retention features of these structures, caution should be applied when evaluating vault sediment concentrations in the context of sediment transport to Slip 4.

The vaults are configured to allow stormwater to flow through them under low-flow conditions, but allow high-flow bypass to occur via upgradient manhole overflow weir configurations. These stormwater vaults are identified on **Figure 1**.

It is important to note that there are some portions of KCIA that are downgradient of the stormwater vaults; however, these sections of KCIA contain runways that are routinely swept or contain grassy portions. These areas are not expected to be significant sources of target chemicals.

3. STORMWATER SEDIMENT SAMPLING

From Jun 6, 2006 to June 8, 2006, King County Industrial Waste Program staff collected sediment samples from eight (8) stormwater vaults at KCIA. The sample locations are identified on **Figure 1** (according to KCIA Stormwater Structure No.):

- No. 1541
- No. 1640
- No. 1650

- No. 1657
- No. 1670
- No. 1680
- No. 1756
- No. 1757

3.1 Sampling Method

The sediment samples from the eight (8) stormwater vaults were collected by attaching a 4-liter stainless steel beaker to a long telescoping metal pole. The beaker was attached to the pole by use of a hole drilled into the beaker and a metal clip attached to the end of the pole. The beaker was lowered to the bottom of the vault and scraped along the bottom in order to draw sediment into the beaker. When full, the beaker was raised to the surface and the contents allowed to settle. A second 4-liter stainless steel beaker was attached to the metal pole and the process repeated. After some settling of the first beaker, the top water layer was decanted back into the vault, with the remaining sediment transferred to a pre-cleaned stainless steel mixing bowl with stainless steel spoon. This process was repeated between the two (2) beakers until enough sediment was sampled.

The sediment in the mixing bowl was thoroughly homogenized by mixing with the stainless steel spoon. If present, particles greater than ¼-inch were removed from the mixing bowl with the stainless steel spoon. The homogenized sediment mixture was then transferred to pre-cleaned laboratory sample containers. The sample containers were then placed into Ziploc bags and placed in a chilled laboratory cooler.

The hierarchy for sampling location within each vault gave hierarchy to collecting sediments as close to the final (outflow) chamber as possible. Since the outflow chamber of a vault is expected to have a greater percentage of fines in the sediment than in the first (inflow) chamber, this sample location was selected to get "worst case" sediment concentrations of target chemicals.

3.2 Sampling Equipment Decontamination

All of the stainless steel sampling equipment was precleaned at the King County Environmental Laboratory (KCEL) and wrapped in aluminum foil prior to use in the field. The only decontamination required was rinsing of the telescoping metal pole between sampling stations. The pole was rinsed by using a polypropylene squeeze bottle containing laboratory reverse osmosis (RO) water.

3.3 Sample Containers and Preservation

The following containers were used for each sample location:

- Polychlorinated Biphenyls (PCBs) 8oz glass jar
- Semivolatile Organic Compounds (SVOCs) 8oz glass jar
- Total Solids(TS)/Total Organic Carbon (TOC) 4oz wide-mouth glass jar
- Metals (As/Cu/Pb/Hg/Zn) 8oz HDPE jar
- Total Petroleum Hydrocarbons (TPH)/Diesel- and Oil-Range 8oz glass jar

Upon collection, all samples were preserved by being placed in an insulated, chilled cooler containing ice. The samples were stored in the chilled cooler until delivery to KCEL.

3.4 Field Duplicate

One field duplicate sample was collected from Vault 1680 during the sampling event. This vault was selected because of the ease of collecting sufficient sample. The field duplicate sample was collected from the same homogenized mixing bowl as the original sample and was submitted for PCB analysis and Total Solids analysis only.

4. CHEMICAL ANALYSIS

The following analyses were conducted on each sample at KCEL:

- PCBs EPA Method 8082
- SVOCs (PAH and Phthalates) EPA Method 8270
- Total Solids Standard Methods No. 2540-G
- TOC EPA Method 9060
- Metals (As/Cu/Pb/Hg/Zn) EPA Methods 200.8 & 245.1
- Diesel- and Oil-Range TPH Method NWTPH-Dx

5. CHEMICAL RESULTS

The full chemical results from the stormwater sediment sampling event are provided in **Appendix A**. These results are further summarized into tabular format for target chemicals based on dry-weight results (**Table 1**) or results normalized to organic carbon (**Table 2**).

5.1 Dry-Weight Results

The dry-weight chemical results are presented in **Table 1**.

It should be noted that two samples were collected from Vault 1757. These samples were collected because of the different appearance of sediments from the middle and final (outflow) vault chambers. However, because of the nature of the sample collected from the outflow chamber (see Note "(c)" in **Table 1**), it is not considered representative of the sediment originating from KCIA runoff. The results from this particular sample are presented for the sake of completeness; however, the data from this sample will not be included in the discussions to

follow. The sediment collected from the middle chamber (see Note "(b)" in **Table 1**) is considered representative of the sediment originating from KCIA runoff.

PCBs:

Total PCB concentrations were all below 1,000 μ g/kg, with the exception of the sample from Vault 1680. The original and duplicate sample values for this vault were 1,922 μ g/kg and 2,108 μ g/kg, respectively. The relative percent difference between these two values is 9% indicating good analytical and field precision.

The total PCB results for Vaults 1541, and 1640 were non-detect and 252 μ g/kg, respectively. These vaults drain to a KCIA manhole where Seattle Public Utilities collected a sediment trap sample in March to August 2005. The result from this sediment trap sample (T5A) was 106 μ g/kg (King County/Seattle, 2006).

The total PCB results for Vaults 1650, and 1657 were 717 and 243 μ g/kg, respectively. These vaults drain to a KCIA manhole where Seattle Public Utilities collected a sediment trap sample in March to August 2005. The result from this sediment trap sample (T4A) was 450 μ g/kg (King County/Seattle, 2006).

The total PCB results for Vaults 1670, 1680, 1756, and 1757 were 287, 1,922/2,108, 539, and 757 $\mu g/kg$, respectively. These vaults drain to two (2) KCIA manholes where Seattle Public Utilities collected sediment trap samples in March to August 2005. The results from these two sediment trap samples (T2A and T3A) were 177 and 38 $\mu g/kg$, respectively (King County/Seattle, 2006).

Phthalates:

Bis(2-ethylhexyl)phthalate: Bis(2-ethylhexyl)phthalate (BEHP) concentrations ranged from 29,400 μg/kg (Vault 1657) to 232,000 μg/kg (Vault 1757).

BEHP concentrations were generally higher toward the central portion of the airport (Vaults 1680 to 1757), with values ranging from 56,900 to 232,000 μ g/kg and at the northern portion of the airport (Vaults 1541 and 1640), with values of 53,100 and 73,200 μ g/kg, respectively.

BEHP concentrations were generally lower toward the north-central portion of the airport (Vaults 1650 to 1670), with values ranging from 29,400 to 39,000 µg/kg.

As a point of comparison, Seattle Public Utilities conducted sediment testing in 2003 through 2005 at private catch basins of commercial and industrial businesses in the Lower Duwamish and East Waterway drainage basins. Results for BEHP varied from a low of 88 µg/kg to a high of 160,000 µg/kg (King County/Seattle, 2005).

In November 2005, Seattle Public Utilities collected sediment samples from a stormwater oil/water separator (CB79) and a stormwater catch basin (CB80) on the Emerald Services property that abuts Slip 4. The BEHP results for these samples were 120,000 and 38,000 μ g/kg, respectively (King County/Seattle, 2006).

Butylbenzylphthalate: Butylbenzylphthalate (BBzP) concentrations ranged from less than 700 μg/kg (Vault 1541) to 4,090 μg/kg (Vault 1757).

PAH:

High molecular weight polycyclic aromatic hydrocarbon (HPAH) concentrations ranged from 37,390 µg/kg (Vault 1541) to 629,900 µg/kg (Vault 1757).

HPAH concentrations were generally higher toward the central portion of the airport (Vaults 1670 to 1757), with values ranging from 257,150 to 629,900 μ g/kg.

HPAH concentrations were generally lower at the northern portion of the airport (Vaults 1541 to 1657), with values ranging from 37,390 to 156,860 μ g/kg, respectively. These vaults drain to a common manhole where Seattle Public Utilities collected a sediment trap sample in March to August 2005. The result from this sediment trap sample (T1) was 17,590 μ g/kg (King County/Seattle, 2006).

Metals:

Copper: Copper concentrations ranged from 204 mg/kg (Vault 1657) to 1,550 mg/kg (Vault 1541).

In December 2004, Seattle Public Utilities collected a sediment sample from a stormwater catch basin (CB46 – KCIA No. 1082) located between the King County Maintenance Facility and Show Quality Metal Finishing. This catch basin collects stormwater that drains to Vault 1541. The copper result for this sample was 5,660 mg/kg (King County/Seattle, 2006).

Lead: Lead concentrations ranged from 190 mg/kg (Vault 1541) to 744 mg/kg (Vault 1650).

Zinc: Zinc concentrations ranged from 574 mg/kg (Vault 1670) to 1,880 mg/kg (Vault 1541).

General Discussion: The dry-weight metal results were compared to criteria from the Washington State Sediment Management Standards (Ch. 173-204 WAC). This regulation contains criteria based on Sediment Quality Standards (SQS) and Cleanup Screening Levels (CSL) for marine sediment. One or more sample results presented in **Table 1** or **Table 2** exceeded the SQS or CSL for copper, lead, mercury, and zinc. However, for the sake of comparison, surface sediment sampling of Slip 4 conducted in 2004 resulted in a CSL exceedance for mercury in one (1) of the four (4) locations sampled. No other SQS or CSL

exceedances were reported for the metals regulated under the Washington State Sediment Management Standards (King County/Seattle, 2006).

TPH:

Diesel-range TPH concentrations ranged from non-detect (Vault 1650) to 16,000 mg/kg (Vault 1640).

Motor oil-range TPH concentrations ranged from 3,500 mg/kg (Vault 1657) to 81,000 mg/kg (Vault 1541).

Coprostanol:

The sediment samples from Vaults 1541, 1640, and 1757 had detects of coprostanol at concentrations of 34,000 μ g/kg, 25,700 μ g/kg, and 1,150 μ g/kg, respectively. These results are presented in **Appendix A**.

Coprostanol is a sterol found in human feces and is used as a biomarker to indicate the presence of fecal contamination.

5.2 Carbon-Normalized Results

The organic carbon-normalized chemical results are presented in **Table 2**. These carbon-normalized results are compared to criteria from the Washington State Sediment Management Standards (Ch. 173-204 WAC). This regulation contains criteria based on Sediment Quality Standards (SQS) and Cleanup Screening Levels (CSL) for marine sediment.

PCBs:

Total PCB concentrations were all below the SQS limit of 12 mg/kg-OC, with the exception of the sample from Vault 1680 with a value of 29.2 mg/kg-OC. The CSL limit is 65 mg/kg-OC.

Phthalates:

Bis(2-ethylhexyl)phthalate: BEHP concentrations ranged from 453 mg/kg-OC (Vault 1650) to 2,805 mg/kg-OC (Vault 1757). The SQS limit for BEHP is 47 mg/kg-OC and the CSL limit is 78 mg/kg-OC.

As a point of comparison, surface sediment sampling of Slip 4 conducted in 2004 resulted in SQS or CSL exceedances in two (2) of the eight (8) locations sampled for BEHP, with values of 51 and 132 mg/kg-OC (King County/Seattle, 2006).

Butylbenzylphthalate: BBzP concentrations ranged from less than 8 mg/kg-OC (Vault 1541) to 67 mg/kg-OC (Vault 1756). The SQS limit for BBzP is 4.9 mg/kg-OC and the CSL limit is 64 mg/kg-OC.

PAH:

HPAH concentrations ranged from 432 mg/kg-OC (Vault 1541) to 10,484 mg/kg-OC (Vault 1756). The SQS limit for HPAH is 960 mg/kg-OC and the CSL limit is 5,300 mg/kg-OC.

Several individual PAH exceeded either the SQS or CSL limit. See Table 2 for further detail.

Indeno(1,2,3-cd)pyrene: Indeno(1,2,3-cd)pyrene concentrations ranged from 30 mg/kg-OC (Vault 1541) to 763 mg/kg-OC (Vault 1756). The SQS limit for indeno(1,2,3-cd)pyrene is 34 mg/kg-OC and the CSL limit is 88 mg/kg-OC.

As a point of comparison, surface sediment sampling of Slip 4 conducted in 2004 resulted in a SQS exceedance for indeno(1,2,3-cd)pyrene for one (1) of the eight (8) locations sampled for PAH. The SQS exceedance for indeno(1,2,3-cd)pyrene was 35 mg/kg-OC (at Station SG06FR), which slightly exceeded the associated SQS limit (34 mg/kg-OC). There were no other reported PAH exceedances of SQS or CSL from the 2004 Slip 4 sampling event (King County/Seattle, 2006).

6. SUMMARY

In June 2006, eight (8) stormwater vaults were sampled from the northern and central portions of KCIA that drain to Slip 4. The sediment samples collected from these vaults had concentrations of target chemicals that exceeded SQS or CSL limits of Washington State Sediment Management Standards.

The application of SQS or CSL limits to sediment in stormwater vaults is used as an aid to compare with historic surface sediment results from Slip 4. Although there were several values for metals, PAH, and phthalates that exceeded SQS or CSL limits in stormwater vault sediment samples, associated historic values in Slip 4 surface sediment samples displayed significantly lower concentrations. This could be partly accounted for by dilution from sediments from other Slip 4 sub-basins; however, another factor may be the sedimentation and oil retention features of the stormwater vaults. Therefore, caution should be applied when evaluating vault sediment concentrations in the context of sediment transport to Slip 4.

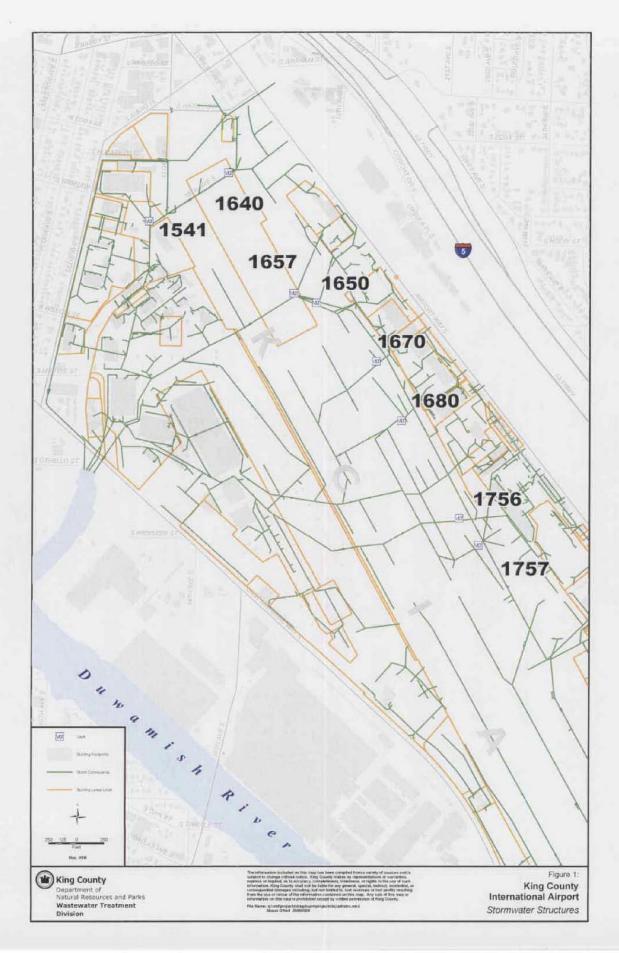
PCB concentrations in the stormwater vaults were all below SQS limits, with the exception of the sediment from one vault. As a point of comparison, historic PCB concentrations from downgradient sediment traps were generally less than the results from the stormwater vaults.

7. REFERENCES

King County/Seattle, 2005. King County and Seattle Public Utilities Source Control Program for the Lower Duwamish – June 2005 Progress Report. King County/Department of Natural Resources; Seattle, Washington and City of Seattle/Seattle Public Utilities; Seattle, Washington.

King County/Seattle, 2006. Lower Duwamish Waterway Slip 4 Early Action Area – Engineering Evaluation/Cost Analysis. Prepared by Integral Consulting, Inc. for King County/Department of Natural Resources; Seattle, Washington and City of Seattle/Seattle Public Utilities; Seattle, Washington.

FIGURES



TABLES

Table 1 King County International Airport - Stormwater Vault Sediment Results - Dry Weight Values

	1541	1640	1650	1657	1670 ^(a)	1680	1680(FD)	1756	1757 ^(b)	1757 ^(c)
	KCIA	KCIA	KCIA	KCIA	KCIA	KCIA	KCIA	KCIA	KCIA	KCIA
	£39363-1	L39363-2	L39363-3	L39363-4	L39363-5	L39363-6	L39361-10	L39363-7	L39363-8	L39396-1
Date Sampled	6/8/2006	6/7/2006	6/7/2006	6/7/2006	0/0/0000	0/0/0000				
OC (percent)	8.65	7.2	6.98	3.98	6/6/2006 6.27	6/6/2006 6.59	6/6/2006	6/6/2006 5.27	6/6/2006 8.27	6/6/2006 0.45
The state of the s	1	,	0.00	0.50	0.27	0.33	1	5.27	0.27	0.45
letals (mg/kg DW)										
As	9.4	23	34.4	14	9.3	29.3	-	12	16	4
Cu	1,550	233	567	204	227	284		286	301	31
°b	190	463	744	263	396	420	-	237	385	10
-lg	0.13	0.21	0.24	0.20	0.30	0.24	-	0.54	0.24	0.04
în	1,880	1,250	1,810	1,620	574	1,240	-	1,580	813	40
.PAH (µa/ka DW)										
cenaphthene	820 U	1.100 Ü	1,600 U	870 U	1,000	1,500 U		1.600 U	1.300 U	49
Acenaphthylene	1,800 U	2,300 U	3,500 U	1,900 U	1,300 U	3,300 U		3,500 U	2.800 U	100
Anthracene	470 U	1,200	990	840	4,170	1,910	<u> </u>	4,390	6,360	63
luorene	1.500 U	2.000 U	3.000 U	1,600 U	1,700	2,900 U		3,000 U	2,400 U	90
2-Methylnaphthalene	1,600 U	2,200 U	3,300 U	1,700 U	1,700 U	3.100 U		3,300 U	2,400 U	90
Vaphthalene	1,600 U	2,200 U	3,300 U	1,700 U	1,200 U	3,100 U		3,300 U	2,600 U	97 97
Phenanthrene	3,260	13,700	6,980	6,580	20.900		-			
Total LPAH	3,260	14,900	7,970	7,420	20,900	19,100	-	33,700	47,200	703
Oldi EFAIT	3,260	14,900	7,970	7,420	27,770	21,010	-	38,090	53,560	766
IPAH (μg/kg DW)										
Benzo(a)anthracene	2,230	7,160	4,530	3,730	19,600	11,600	- 1	30,800	35,500	495
Benzo(a)pyrene	2,770	11,500	7,150	6,240	26,100	19,000	•	42,600	50,000	741
Benzo(b)fluoranthene	4,520	20,500	10,000	10,400	40,700	30,500	-	77,800	83,200	1,310
Benzo(k)fluoranthene	3,280	13,900	10,600	9,910	26,700	30,400	-	58,200	58,900	861
Benzo(g.h,i)perylene	3,140	11,900	7,270	6,610	25,000	20,300	-	42,600	44.800	736
Chrysene	4,690	18,900	10,800	9,970	32,200	31,300	-	67,300	70,100	1,010
Dibenzo(a,h)anthracene	820 U	3,100	2,300	1,600	7,480	4,050		10,400	12.900	184
luoranthene	7,420	33,600	18,000	17,100	52,500	53,300	-	106.000	132,000	1.910
ndeno(1,2,3-cd)pyrene	2,570	10,300	6,570	5,810	23,300	18,200	-	40,200	42,500	684
Pyrene	6,770	26,000	14,100	12,800	44,500	38,500		76,600	100,000	
Total HPAH	37,390	156,860	91,320	84,170	298,080	257,150	-	552,500	629,900	1,450 9,381
Dh4h - f					•			, , ,		-,
Phthalates (µg/kg DW) Bis(2-ethylhexyl)phthalate	53.400	70.000								
	53,100	73,200	31,600	29,400	39,000	64,300	-	56,900	232,000	63,900
Butylbenzylphthalate	700 U	2,040	3,130	1,490	2,610	3,040	-	3,510	4,090	115
Diethylphthalate	700 U	930 U	1,400 U	750 U	510 U	1.300 U	-	1,400 ∪	1,100 ⊔	42
Dimethylphthalate	1,300 U	1,700 U	2,600 U	1,400 U	930 ∪	2,400 U	-	2,600 U	2,100 U	76
Di-n-butylphthalate	590 U	780 U	3,150	710	420 U	2,810	-	1,200 U	930 U	35
Di-n-octylphthalate	940 U	1,200 U	1,900 U	990 U	680 U	1,800 ป	•	1,900 ∪	1,500 U	110
CBs (µg/kg DW)										
Arodor 1016	40 U	51 U	73 U	40 U	31 U	71 U	70 U	80 U	60 U	22
Aroclor 1221	40 U	51 U	73 U	40 U	31 U	71 U	70 U	80 LI	60 U	22
roclor 1232	40 U	51 U	73 U	40 U	31 U	71 U	70 U	80 U	60 U	22
Aroclor 1242	40 U	51 U	73 U	40 U	31 U	71 U	70 U	80 U	60 U	22
rodor 1248	40 U	51 U	248	71	31 U	725	795	80 U	97	22
Aroclor 1254	40 U	152	203	75	115	1,040	1,150	274	328	22
Arodor 1260	40 U	100	266	97	172	157	163	265	332	22
otal PCBs	ND ND	252	717	243	287	1,922	2,108	539	757	ND
TOLI (mm/km)							,	• •		
PH (mg/kg)	1									
Diesel Notor Oil	11,000 81,000	16,000 8,800	ND 10.000	940 3,500	2,000	2,100 8,200	<u> </u>	8,100	6,300	1,600
					B.500			25,000		ND

Notes:

Detected values shown in bold.

Except where noted, all samples collected from final (outflow) chamber of vault.

(a) = Sample collected from first (inflow) chamber of a two-chamber vault. Insufficient sediment in second (outflow) chamber.

(b) = Sample collected from the middle chamber of a two-chamber vault. Institutions sediment in second (outflow) chamber of Sample collected from the middle chamber of vault. Sediment sample appeared normal.

(c) = Sample collected from the last (outflow) chamber of vault. Sediment sample appeared to be a greyish-colored sturry.

DW = Dry weight

FD = Field duplicate

ND = Not detected
U = Chemical not detected at reported concentration.

Table 2 King County International Airport - Stormwater Vault Sediment Results - Comparison to Sediment Management Standards

			1541	1640	1650	1657	1670 ^(a)	1680	1756	1757 ^(b)	1757 ^(c)
	sqs	CSL	KCIA	KCIA	KCIA	KCIA	KCIA	KCIA	KCIA	KCIA	KCIA
	3025	USL	L39363-1	L39363-2	L39363-3	L39363-4	L39363-5	L39363-6	L39363-7	L39363-8	L39396-1
Date Sampled			6/8/2006	6/7/2006	6/7/2006	6/7/2006	6/6/2006	6/6/2006	6/6/2006	6/6/2006	6/6/2006
TOC (percent)			8.65	7.2	6.98	3.98	6.27	6.59	5.27	8.27	0.45
100 (percent)			0.00		0.50	0.00	0.2.	0.50		4.4.	
Metals (mg/kg DW)					200		4/4				4.11
As	57	93	9.4	23	34.4	14	9.3	29.3	12	16	4 U
Cu	390	390	1,550	233	567	204	227	284	286	301	31
Pb	450	530	190	463	744	263	396	420	237	385	10
Hg	0.41	0.59	0.13	0.21	0.24	0.20	0.30	0.24	0.54	0.24	0.04 U
Zn	410	960	1,880	1,250	1,810	1,620	574	1,240	1,580	813	40
LPAH (mg/kg OC)											
Acenaphthene	16	57	9 U	15 U	23 U	22 U	16	23 U	30 U	16 U	11 U
Acenaphthylene	66	66	21 U	32 U	50 U	48 U	21 U	50 U	66 U	34 U	22 U
Anthracene	220	1,200	5 U	17	14	21	67	29	83	77	14
Fluorene	23	79	17 U	28 U	43 U	40 U	27	44 U	57 U	29 U	20 U
2-Methylnaphthalene	38	64	18 U	31 U	47 U	43 U	19 U	47 U	63 U	31 U	22 U
Naphthalene	99	170	18 U	31 U	47 U	43 U	19 U	47 U	63 U	31 U	22 U
Phenanthrene	100	480	38	190	100	165	333	290	639	571	156
Total LPAH	370	780	38	207	114	186	443	319	723	648	170
HPAH (mg/kg OC)										-	
Benzo(a)anthracene	110	270	26	99	65	94	313	176	584	429	110
Benzo(a)pyrene	99	210	32	160	102	157	416	288	808	605	164
Benzo(b)fluoranthene(d)	230	450	52	285	143	261	649	463	1,476	1,006	298
Benzo(k)fluoranthene			38	193	152	249	426	461	1,104	712	191
Benzo(g.h.i)perylene	31	78	36	165	104	166	399	308	808	542	163
Chrysene	110	460	54	263	155	251	514	475	1,277	848	224
Dibenzo(a,h)anthracene	12	33	9 U	43	33	40	119	61	197	156	41
Fluoranthene	160	1,200	86	467	258	430	837	809	2,011	1,596	424
Indeno(1,2,3-cd)pyrene	34	88	30	143	94	146	372	276	763	514	152
Pyrene	1,000	1,400	78	361	202	322	710	584	1,454	1,209	322
Total HPAH		5,300	432	2,179	1,308	2,115	4,754	3,902	10,484	7,617	2,080
Phthalates (mg/kg OC)											
Bis(2-ethylhexyl)phthalate	47	78	614	1,017	453	739	622	976	1,080	2,805	14,169
Butylbenzylphthalate	4.9	64	8 U	28	45	37	42	46	67	49	25
Diethylphthalate	61	110	8 0	13 U	20 U	19 U	8 U	20 U	27 U	13 U	9 U
Dimethylphthalate	53	53	15 U	24 U	37 U	35 U	15 U	36 U	49 U	25 U	17 U
Di-n-butylphthalate	220	1,700	7 U	11 U	45	18	7 U	43	23 U	11 U	8 U
Di-n-octylphthalate	58	4,500	11 U	17 U	27 U	25 U	11 U	27 U	36 U	18 U	24
PCBs (mg/kg OC)											
Aroclor 1016		-	0.5 U	0.7 U	1.0 U	1.0 U	0.5 U	1,1 U	1.5 U	0.7 U	4.9 U
Aroclor 1221			0,5 U	0.7 U	1.0 U	1.0 U	0.5 U	1.1 U	1.5 U	0.7 U	4.9 U
Arodor 1232	+		0.5 U	0.7 U	1.0 U	1.0 U	0.5 U	1.1 U	1.5 U	0.7 U	4.9 U
Aroclor 1242			0.5 U	0.7 U	1.0 U	1.0 U	0.5 U	1.1 U	1.5 U	0.7 U	4.9 U
Aroclor 1248			0.5 U	0.7 U	3.6	1,8	0.5 U	11.0	1.5 U	1.2	4.9 U
Aroclor 1254			0.5 U	2.1	2.9	1.9	1.8	15.8	5.2	4.0	4.9 U
Arodor 1260			0.5 U	1.4	3.8	2.4	2.7	2.4	5.0	4.0	4.9 U
Total PCBs	12	65	ND	3.5	10.3	6,1	4.6	29.2	10.2	9.2	ND
TPH (mg/kg)	мт	CA A									
Diesel		2,000	11,000	16,000	ND	940	2,000	2,100	8,100	6,300	1,600
Motor Oil		2.000	81,000	8.800	10.000	3,500	8.500	8.200	25,000	13,000	ND

Notes:

Detected values shown in bold.

Except where noted, all samples collected from final (outflow) chamber of vault.

- (a) = Sample collected from first (inflow) chamber of a two-chamber vault. Insufficient sediment in second (outflow) chamber
- (b) = Sample collected from the middle chamber of vault. Sediment sample appeared normal.
- (c) = Sample collected from the last (outflow) chamber of vault. Sediment sample appeared to be a greyish-colored slurry
- (d) = Standard based on total benzofluoranthenes

DW = Dry weight FD = Field duplicate

ND = Not detected

OC = Organic carbon

U = Chemical not detected at reported concentration.

= Exceeds Sediment Quality Standards (SQS).

= Exceeds Cleanup Screening Levels (CSL) or MTCA Method A soil cleanup level for industrial use,

KCSlip4 60865

APPENDIX A ANALYTICAL DATA

		줓	ing County Environmental Lab Analytical Report	ity En	viron	men	talL	ap	Analy	tical	Rep	۲ وت					
PROJECT: 421168-40	Locator: Descrip: Sampled: Lab ID: Matrix: % Solids:	KCIA_V_1670 KC AIRPORT: Jun 06, 2006 L39361-5 IN-LINESED 42.2	KCIA_V_1670 KC AIRPORT STORM W Jun 06. 2006 L39361-5 IN-LINESED 42.2	Locator: Descrip: Sampled Lab ID: Matrix: % Solids:	rr: KCIA p: KC A ed: Jun (r: L393 r: IN-L1 ds: 18.2	KCIA_V_1680 KC AIRPORT STORM W Jun 06, 2006 L39361-6 IN-LINESED 18.2	STORM	>	Locator: Descrip: Sampled: Lab ID: Matrix: % Solids:	KCIA_V_1756 KC AIRPORT : Jun 06, 2006 L39361-7 IN-LINESED 16.2	KCIA_V_1756 KC AIRPORT STORM W Jun 06, 2006 L39361-7 IN-LINESED 16.2	DRM W	Locator: Descrip: Sampled: Lab ID: Matrix: % Solids:		KCIA_V_1757 KC AIRPORT STORM W Jun 06, 2006 139361-8 IN-LINESED 21.6	ORM	>
Parameters	Value	Qual A	MDL RDL (Weight Basis	Units Value	ਰੌ	Qual MDL RE - Dry Weight Basis	RDL Basis	Units	Value	Qual MDL - Dry Weight Be	lal MDL RI - Dry Weight Basis	거	Units Value	ð	Qual MDL RI	RDL asis	Units
COMBINED LABS																	
M=CV SMZ640-G (03-01-007-002) Total Solide *	. 74	•	0.005 0.01	%	18.2	0.005	10.0	8	16.2		0.005 0.01		%	21.6	0.005	0.01	%
M=0R EPA 3560E/8062 (7-3-03-002)					!									The second secon			
Aroclor 1016		MD I	31 63.3 ug/Kg	g/kg	<mdi< th=""><th>1 7</th><th>147</th><th>ug/Kg</th><th></th><th>¢ΜDΓ</th><th>80</th><th>165 ug/Kg</th><th>å</th><th>-AMDL</th><th>9</th><th>124</th><th>124 ug/Kg</th></mdi<>	1 7	147	ug/Kg		¢ΜDΓ	80	165 ug/Kg	å	-AMDL	9	124	124 ug/Kg
Arockyr 1221		, MDL	31 63.3 ug/Kg	g/Kg	JW.	7	147	147 ug/Kg		¢MDL	l	165 ug	λg	≺MDL	8	124	ug/Kg
Aroclor 1232		ÅPL	31 63.3 ug/Kg	g/Kg	<mdl< td=""><td>7</td><td>147</td><td>ug/Kg</td><td></td><td>¢ΜDΓ</td><td>80</td><td>165 ug/Kg</td><td>/Kg</td><td><mdl< td=""><td>90</td><td>124</td><td>124 ug/Kg</td></mdl<></td></mdl<>	7	147	ug/Kg		¢ΜDΓ	80	165 ug/Kg	/Kg	<mdl< td=""><td>90</td><td>124</td><td>124 ug/Kg</td></mdl<>	90	124	124 ug/Kg
Aroclor 1242		å ₽	31 63.3 ug/Kg	g/Kg	₩.	7.	147	ug/Kg		φNDL		165 ug	ug/Kg	≺MDL	9	124	ug/Kg
Aroclor 1248		∏	31 63.3 ug/Kg	g/Kg	725	7.	147	147 ug/Kg		^MDL	80	165 ug	ng/Kg	97 <rdl< th=""><th>9</th><th>124</th><th>124 ug/Kg</th></rdl<>	9	124	124 ug/Kg
Aroclor 1254	115		31 63.3 ug/Kg	g/Kg	1040	7.	147	ug/Kg	274		89	165 ug	ng/Kg	328	9	124	ug/Kg
Aroclor 1260	172	~	31 63.3 ug/Kg	g/Kg	157	7	147	ug/Kg	265		8	165 ug	ug/Kg	332	9	124	ug/Kg
* Not converted to dry weight basis for																	
this parameter													_				_

	01 Units 01 % 44 ug/Kg 44 ug/Kg 44 ug/Kg 44 ug/Kg	Watrix: II. % Solids: 5f Value (58.6	KC AIRPORT STORM W Jun 06, 2006 L38395-1 IN-LINESED 58.6 Qual MDL RDL U - Dy Weight Basis - MDL	ACAINGE TORM Jun 06. 2006 L39395-1 IN-LINESED 58.6 Qual MDL RDL - Dry Weight Basis - MDL	TORM W RDL Units ss 0.01 % 45.6 ug/Kg 45.6 ug/Kg 45.6 ug/Kg 45.6 ug/Kg
:	<u> </u>	v ; ⊽ :		22 45.	45.6 ug/Kg
:	1	: V :		1	45.6 ug/Kg
163 70	1 4	V		22 45.6	ua/Ka

Data Management and Analysis Section Comprehensive Report #12216rev

10/5/2006 - KCIA_June2006_SW_Vault_Sed_Data.xls

Locator: KCIA_V 1541	C State of the sta	KCIA_V_1640 KC ARROORT STORM W KCIA-1640-060706 Jun 07, 2006 L39363-2 IN-LINESED 25.7 Qual MDL RDL Units -Dry Weight Basis 7400 14600 mg/Kg -RDL 0.078 0.782 mg/Kg -RDL 0.078 0.782 mg/Kg -RDL 0.078 1.98 mg/Kg -RDL 0.078 0.782 mg/Kg	Locator: KCIA V 1650 Descrip: KC AIRPORT Client Loc: KCIA-1650-06 Sampled: Jun 07, 2006 Lab ID: J39363-3 Matrix: IN-LINESED % Solids: 17.2 Value Qual MDL - Dry weight 17.2 0.003 17.2 7000 69800 7000 69800 7000 69800 7000 69800 7000 17.2 17.2 0.003 17.2 0.003 17.2 17.2 0.003	3M W 100 DL 100 1100 1100 1100 1100 1100 110	Locator: Descrip: Client Loc: Sampled: Lab ID: Martir: % Solids: Value 39800 0.2 14 14 1620	KCIA_V 1 KC AIRPC KCIA-165 Jun 07, 22 Jun 07	667 DRT STORM W 7-060706 D06 ED ADL RDL Units Fight Bass 5000 10200 mg/Kg
Value	Value Qu 72000 72000 23 <ri 83 <ri 453 453 463 463 463 463 463 463 463 46</ri </ri 	2 %	Nalue Qu 69800 17.2 0.24 <ri 56.7 744 1810</ri 	(DL 1100 0001 14.5 24.1 123	398 398	Oual N - Dy W <rdl (<="" th=""><th>RDL Un Basis 3 10200 mg</th></rdl>	RDL Un Basis 3 10200 mg
Se500 7900 16000 mg/Kg 72000	72000 25.7 23 23 23 46.9 1250	5 5	69800 17.2 0.24 34.4 567 744 1810	14100 0.001 1.16 1.19 1.19 1.12 1.12 1.12 1.12	88 8 2 2 2	<rdl (<="" th=""><th>) 10200 mg</th></rdl>) 10200 mg
34.1 0.005 0.01 % 25.7 0.01	72000 25.7 23 23 23 463 463 1250	J J	0.24 0.24 34.4 567 744 1810	14100 0.01 1.16 1.19 14.5 2.41	398	(RDL (10200 mg
S41 0.005 0.01 % 25.7 0 0 0 0 0 0 0 0 0	25.7 23 23 463 1250	0 0	17.2 0.24 34.4 567 744 1810	24.1 1.16 1.4.5 2.4.1 1.23	8 - 4 4	<rdl <rdl< th=""><th>0.01</th></rdl<></rdl 	0.01
S41 0.005 0.578 mg/kg 0.21	25.7 0.21 233 463 1250	0.005 0.078 0 5.1 0.39 3 0.51	94.4 34.4 567 744 1810	24.1 1.93 14.5 2.41 123	8	<rol <rdl< th=""><th>0.0</th></rdl<></rol 	0.0
9.4 <rdl 0.059="" 0.078="" 0.21="" 0.38="" 0.39="" 0.551="" 0.578="" 1.250="" 1.250<="" 1.91="" 151="" 1550="" 233="" 5.1="" <rdl="" kg="" mg="" th=""><th>23 233 463 1250</th><th>0.078 0 5.1 0.39 3 0.51 43</th><th>0.24 34.4 567 744 1810</th><th>24.1 1.93 14.5 2.41 123</th><th></th><th>¢RDL</th><th></th></rdl>	23 233 463 1250	0.078 0 5.1 0.39 3 0.51 43	0.24 34.4 567 744 1810	24.1 1.93 14.5 2.41 123		¢RDL	
1550 0.38 1.91 mg/kg 2.33	23 4.23 1250	5.1 0.39 3 0.51 43	344 567 744 1810	24.1 1.93 14.5 2.41 123	4 4 4	<rdl< th=""><th>2 0.624 mg/Kg</th></rdl<>	2 0.624 mg/Kg
9.4 KRDL	mg/Kg 23 mg/Kg 233 mg/Kg 1250 ug/Kg 1256 ug/Kg 1256 ug/Kg 1256	0.39 0.51 0.51 4.3	34.4 567 744 1810	24.1 1.93 14.5 2.41 123	2 2 2	-RDL	- 1
1550 0.38 1.91 mg/kg 233 1.91 mg/kg 1.85 1.80 1.8	mg/Kg 233 mg/Kg 463 mg/Kg 1250 ug/Kg	0.39 0.51 43 43	567 744 1810	1.93 14.5 123 123			
1800 2.8 14.3 mg/kg 1250 0	mg/Kg 453 mg/Kg 1250 ug/Kg ug/Kg ug/	3 43 43	744	2.41			ı
1880	1250 19/Kg 19/Kg 19/Kg 19/Kg 19/Kg	0.51 2.48 43 82.5 43 82.5	1 1 1	123			15.3
MD	6y/6n 6y/6n 6y/6n 6y/6n 6y/6n	43 82.5 43 82.5	<wdf< th=""><th>123</th><th></th><th>0.5</th><th>5 2.55 mg/Kg</th></wdf<>	123		0.5	5 2.55 mg/Kg
Charlest	5y/6n 5y/6n 5y/6n 5y/6n	43 82.5 43 82.5	Z WICK	3 8	3	786DU 24	04/ci- 8 35 4
Color	63/60 63/60 63/60	6.20		Ċ	D S		8 4
Section 1200 2350 ug/kg SMDL 1200 2350 ug/kg SMDL 1400 2650 ug/kg SMDL 2650 ug/kg	9/6n 69/6n 69/6n	2,70		2300 4850 unika	2 2	1	2480
Comparison		1000 3110		125	S C		8.58
Color Colo		3 5		81.8	S CY	-	32.9
Complement Com		1000 3740		5.58	P C	1	2980
Color Colo		3000 3740		8080	n CY		3230
Cample C		2500 4080		7440	Ž.	İ	3980
CMDL 350 704 ug/kg CMDL 350 704 ug/kg CMDL 4MDL 1200 2350 ug/kg CMDL 2250 2350 ug/kg 1200 CMDL 2250 2350 ug/kg 23	ng/kg	1100 2180		3260	ξ.		1740
Section Sect		470 934			Ž,		745
Section Sect		1600 3110		4650	ΙΚg	<mdl 1200<="" td=""><td>. 2480</td></mdl>	. 2480
Section Sect	ug/Kg			7440	ίΚg	N	3980
Color Colo	ug/Kg	1200		3720	Kg	- 1	1990
AMDL 1900 3750 ug/kg AMDL 24MDL 1900 3750 ug/kg AMDL 24MDL 1800 3520 ug/kg AMDL 24MDL 1900 3750 ug/kg AMDL 24MDL 1900 3750 ug/kg AMDL 24MDL 2200 4460 ug/kg AMDL 2200 2460 ug/kg 2200 AMDL 2200 2460 ug/kg 2200 AMDL 2200 2460 ug/kg 2200 AMDL 2200 2200 2460 ug/kg 2200 AMDL 2200 2200 230 2460 ug/kg 2200 2200 2200 230 2460 ug/kg 2200 2200 2300 2460 ug/kg 2200 2200 2300 2460 ug/kg 2200 2200 2300 ug/kg 2200 2300 ug/kg 2200 2300 ug/kg 2200 2300 ug/kg 2200 u	ng/Kg	2200 4360		6510	ΙΚα		3480
AMDL	ng/Kg	2500 4980		7440	g,		2000
Color Colo	ug/Kg	2300		6980	/Kg	-	3730
Color Colo	ug/Kg	1400 2800		4190	Kg		2240
AMD 1900 3750 ug/kg 2800 <rd 2="" 2<="" th="" =""><th>ug/Kg</th><th>2000 4050</th><th></th><th>6050</th><th>Kg</th><th>İ</th><th>3230</th></rd >	ug/Kg	2000 4050		6050	Kg	İ	3230
CMD 820 1640 ug/kg	ug/Kg 2800	2500 4980		7440	J.		3980
CMDL 1800 3520 ug/kg CMDL 2 CMDL 2200 4460 ug/kg CMDL 3 CMDL 470 838 ug/kg 1200 cRDL 3 CMDL 2270 350 469 ug/kg 7160 CMDL 3 CMDL 370 1360 CMDL 3 CMDL 370 ug/kg 7160 CMDL 350 CMDL 3 CMDL 370 ug/kg 7160 CMDL 370 ug/kg 370 ug/	ng/Kg	1100 2180		3260	Kg		1/40
	ug/Kg	2300 4670		0869	J. W.		3730
<mdl< th=""> 470 838 ug/kg 1200 <rdl< th=""> 2230 230 469 ug/kg 7160 2770 350 704 ug/kg 71500</rdl<></mdl<>	gy/Kgu	3000 5910	;	8840		7 TOWN	02.4
2230 230 468 ug/kg 7160 2770 350 734 ug/kg 71500	ug/Kg 1200	620 1250		1860		SEL	486
2770 350 704 ug/Kg 11500	ug/Kg	623	į	930			99
COHOC HONE CHO	ug/Kg	934		1400	-		ļ
350 /04 ug/Kg Zu500	ug/Kg	934		1400			0 /45 ug/kg
3140 940 1880 ug/Kg 11900	ug/Kg	2490			/Kg 6610	980	0881
Benzo(k)fluoranthene 3280 350 704 ug/Kg 13900 470	ng/Kg	470 934 ug/Kg	10000	1800 UQING			

PROJECT: 421168-40																
	Locator	KCIA V 1541	1541		Locator	KCIA V 1540	/ 1540		Locator	KCIA V 1650	1650		Locator	KCIA V 1657	1657	
	Descrip:	KC AIRP	KC AIRPORT STORM W	N W	Descrip:	KC AIR	KC AIRPORT STORM W	ORM W	Descrip:	KC AIR	KC AIRPORT STORM W	DRM W	Descrip:		KC AIRPORT STORM W	DRM W
	Sampled: Lab ID:	Jun 08, 2006 L39363-1	900		Sampled: Lab ID:	Jun 07, 2006 L39363-2	2006 -2	3	Sampled: Lab ID:	Jun 07, 2006 L39363-3	2006 3	2	Sampled: Lab ID:		2006	2
	Matrix: % Solids:	IN-LINESED 34.1	99		Matrix: % Solids:	IN-LINESED 25.7	SED		Matrix: % Solids:	IN-LINESED 17.2	SED		Matrix: % Solids:	IN-LINESED 32.2	SED	
Parameters	Value	Qual MDL	ă	RDL Units	Value	Qual	MDL Weight Ba	RDL Units	S	Qual	MDL	RDL Units	its Value	Qual	MDL	RDL Units
COMMINED LABS						5				Ŝ				ŝ	- Ory weight basis	
Benzoic Acid		ZMDL	٠.		<u>.</u>	JQW ₹	1	10400 ug/Kg	<u>.</u>	¢MDL		15500 ug/Kg	ō,	<mdl <<="" td=""><td>1600</td><td>8290 ug/Kg</td></mdl>	1600	8290 ug/Kg
Benzyl Alcohol		WDI.	•			WDF.	830			¢MDL	1400			ÅMDL	750	i
Benzyl Dutyl Printakare		Z .	3 6	DAVOU UDVE	2040	3	0.00	18/0 ug/Kg	3130		1400	2790 ug/Kg	1490	8 4 4 4	750	1490 ug/Kg
Bis(2-Chloroethyl)Ether					1 -	WDF	2300		n n	ZW Z	3500	6980 ua/Ka	29	J QW	1900	3730 up/Ko
Bis(2-Chloroisopropyl)Ether		<mdl< td=""><td>1</td><td></td><td></td><td>MDL</td><td>2300</td><td></td><td></td><td>ΥMDΓ</td><td>3500</td><td></td><td>9</td><td>AD∳</td><td>1900</td><td>3730 ua/Ka</td></mdl<>	1			MDL	2300			ΥMDΓ	3500		9	AD∳	1900	3730 ua/Ka
Bis(2-Ethythexyl)Phthalate	53100		790	1640 ug/Kg	73200	0	1100	2180 ug/Kg	31600	i	1600	3260 ug/Kg	Kg 29400	1	840	
Caffeine		ς₩DΓ				≺MDL	930	1870 ug/Kg		√WDL	1400	2790 ug/Kg	9	\dw>	750	1490 ug/Kg
Carbazole		<mdl <<="" td=""><td>` </td><td></td><td></td><td>0</td><td>1100</td><td></td><td></td><td>O <rdl< td=""><td>1600</td><td>3260 ug/Kg</td><td></td><td>10 <rdl< td=""><td>870</td><td>1740 ug/Kg</td></rdl<></td></rdl<></td></mdl>	`			0	1100			O <rdl< td=""><td>1600</td><td>3260 ug/Kg</td><td></td><td>10 <rdl< td=""><td>870</td><td>1740 ug/Kg</td></rdl<></td></rdl<>	1600	3260 ug/Kg		10 <rdl< td=""><td>870</td><td>1740 ug/Kg</td></rdl<>	870	1740 ug/Kg
Chrysene	4690					0	620		10800		930		Kg 9970		200	
Coprostanol	34000	Ç	1600		25700	0.7	2200			₩DL	3300			WDF.	1700	
Diseasotion		אַרָה אַרָה אַרָה	1	1640 ug/kg		4	200	2780 ug/Kg	7300	¥ 5	0091	3260 ug/Kg	009L	CKDL	870	
Diethyl Phthalate		J J		0200 ug/Ng	· ·		200	4560 UG/NG	D '		2000	By/Bin nico	9 (AMD!	3	
Dimethyl Dhthalate			1				200	3470 ug/kg	nel '		00 50	27.90 ug/Kg	9 .		200	1490 UG/Kg
Di-N-Butyl Phthalate		VMDI.	1				280		3150	- 1	1200	2330 US/Kg	210		620	1240 UG/Kg
Di-N-Octvi Phthalate		QW>	1.			Q.	120	2490 ua/Ka		-WD	200	3720 ug/Kg			3 8	000 CH2
Fluoranthene	7420		1,		33600		1200		18000		1900		(d 17100		066	1990 LOVIKO
Fluorene		<mdl <<="" td=""><td>1</td><td></td><td></td><td><mdl< td=""><td>2000</td><td></td><td></td><td>\dW></td><td>1</td><td></td><td>L</td><td>√WDF</td><td>1600</td><td>2730 un/Ka</td></mdl<></td></mdl>	1			<mdl< td=""><td>2000</td><td></td><td></td><td>\dW></td><td>1</td><td></td><td>L</td><td>√WDF</td><td>1600</td><td>2730 un/Ka</td></mdl<>	2000			\dW>	1		L	√WDF	1600	2730 un/Ka
Hexachlorobenzene		≺MDL	İ	156 ug/Kg		∨MDL	110	207 ug/Kg	9 ~	VWD		309 ug/Kg	5,	√WDL	84	165 ug/Kg
Hexachlorobutadiene				176 ug/Kg		≺MDL	120	233 ug/Kg		-MDL	170	349 ug/Kg	9	≺MDL	93	186 ug/Kg
Hexachloroethane		≺MDL	l	3520 ug/Kg		≺MDL	2300	4670 ug/Kg	3	<md∟< td=""><td>3500</td><td>6980 ug/Kg</td><td>5</td><td>√WDL</td><td>1900</td><td>3730 ug/Kg</td></md∟<>	3500	6980 ug/Kg	5	√WDL	1900	3730 ug/Kg
Indeno(1,2,3-Cd)Pyrene	2570		1100	2110 ug/Kg	10300		1400		9 6570				√9 5810	1 1	1100	2240 ug/Kg
Isophorone			i	4460 ug/Kg		₩DF	800	5910 ug/Kg	~	V NDL			5	₩Ş	2400	4720 ug/Kg
Naphthalene			İ			Å₽₽	2200	4360 ug/Kg		√WDF			9	<ΜDΓ	1700	3480 ug/Kg
Nirobenzene		- 1	1900			ZW.	2900	4980 ug/Kg	1	¢MDΓ.			9	V NDF	2000	3980 ug/Kg
N. Nifrocodi M. Oromalomino			-	4080 UG/Kg		ָבֶּיבְּיבְּיבְּיבְּיבְיבְיבְיבְיבְיבְיבְיבְיבְיבְיבְיבְיבְי	200	6230 ug/kg		JON S			9.	- WIDE	2500	49/0 ug/Kg
N-Nitrocogiobenviamine		ł	-				100	South Ugyan			1		9 .4	Jak v	001.	
Pentachlorophenol		1		3140 10/Kg			1100	4160 ug/Kg			1600	Sou ng/Kg	9.9	Jak C	0000	3370 ug/Kg
Phenanthrene	3260			938 10VKg	13700		620	1250 Lighting	CBBO			1860 ug/Kg	6500		2 2	Buyen nace
Phenol		<mdl< td=""><td>8</td><td></td><td></td><td>, MDL</td><td>1400</td><td>2800 ua/Ka</td><td></td><td>J OM></td><td></td><td></td><td></td><td>OW.</td><td>1308</td><td>2240 un/Ka</td></mdl<>	8			, MDL	1400	2800 ua/Ka		J OM>				OW.	1308	2240 un/Ka
Pyrene	6770			938 ug/Kg	26000		620		14100				12800		200	994 ua/Ka
Pyridine		<mdl< td=""><td>3200 6</td><td>6250 ug/Kg</td><td></td><td>√MDF</td><td>4300</td><td>8290 ug/Kg</td><td></td><td><mdl <<="" td=""><td>6400 1</td><td>12400 ug/Kg</td><td></td><td><mdl< td=""><td>3400</td><td></td></mdl<></td></mdl></td></mdl<>	3200 6	6250 ug/Kg		√MDF	4300	8290 ug/Kg		<mdl <<="" td=""><td>6400 1</td><td>12400 ug/Kg</td><td></td><td><mdl< td=""><td>3400</td><td></td></mdl<></td></mdl>	6400 1	12400 ug/Kg		<mdl< td=""><td>3400</td><td></td></mdl<>	3400	
M=OR WDGE NWTPH-DX (7-3-06-001)							:									
Diesel Range (>C12-C24)	11000 H,TA	ΗŢΑ	73	73 mg/Kg		16000 H,TA	26	97 mg/Kg	3				i i	940 H,TA	78	78 mg/Kg
Lube Oil Range (>C24)	81000 H,TA	¥	73	73 mg/Kg		8800 H,TA	6	97 mg/Kg		10000 H,TA	1 5	150 mg/Kg		3500 H,TA	78	78 mg/Kg
 Not converted to dry weight basis for this 									_							

		Z	ng C	County	Environmental	Sum(ıntal		Lab Analytical Report	ical	Sepo	t					
PROJECT: 421168-40	Locator: Descrip: Client Loc: Sampled: Lab ID: Matrix: % Solids:	KCIA_V_1670 KC AIRPORT KCIA-1670-06 Jun 06, 2006 L39363-5 IN-LINESED 47.2	KCIA_V_1670 KC AIRPORT STORM W KCIA-1670-080606 Jun 06, 2006 139363-6 IN-LINSED	RM W	Locator: Descrip: Client Loc: Sampled: Lab ID: Matrix: % Solids:	KCIA_V_1680 KC AIRPORT KCIA-1680-06 Jun 06, 2006 L39363-6 IN-LINESED 18.2	KCIA_V_1680 KC AIRPORT STORM W KCIA-1680-06060 Lun 06, 2006 L39363-6 IN-LINESED	DRM W	Locator: Descrip: Client Loc: Sampled: Lab ID: Matrix: % Solids:		KCIA_V_1766 KC AIRPORT STORM W KCIA-1766-06060 Jun 06, 2006 139383-7 IN-LINESED	ORM W	Locator: Descrip: Client Loc: Sampled: Lab ID: Matrix: % Solids:	. – –	KCIA_V_1767 KC AIRPORT STORM W KCIA-1757-060606M Jun 06, 2006 L39363-8 IN-LINESED	TORM V	
Parameters	Value	Qual - Dry	al MDL R - Dry Weight Basis	RDL Units	Value	Qual	al MDL F	RDL Units	ts Value	ð	ial MOL F • Do Weight Basis	RDL Units	Value	Qual O	ial MDL R	RDL	Units
COMBINED LABS		3				i						•		5			
M≈CV EPA 9060-PSEP96 (03-04-002-003 Total Organic Carbon	62700		4900	9640 ma/Kg	00859		5400	10800 ma/Ka	52700	9	6400	12900 ma/Ka	82700	_	2000	7000 14300 mo/Ko	mo/Ko
M=CV SM2540-G (03-01-007-002) Total Solids *	47.2			% 100	L			% 100		17.1	9000	700			2000	004	n a
M=MT EPA 7471A (06-01-004-003)	1							İ			9		7		9		8
Mercury, Total, CVAA	0.3	0.3 <rdl< td=""><td>0.042 0</td><td>0.428 mg/Kg</td><td>0.24</td><td>^RDL</td><td>0.11</td><td>1.12 mg/Kg</td><td></td><td>0.54 <rdl< td=""><td>0.12</td><td>1.19 mg/Kg</td><td></td><td>0.24 <rdl< td=""><td>0.093</td><td>i i</td><td>0.925 mg/Kg</td></rdl<></td></rdl<></td></rdl<>	0.042 0	0.428 mg/Kg	0.24	^RDL	0.11	1.12 mg/Kg		0.54 <rdl< td=""><td>0.12</td><td>1.19 mg/Kg</td><td></td><td>0.24 <rdl< td=""><td>0.093</td><td>i i</td><td>0.925 mg/Kg</td></rdl<></td></rdl<>	0.12	1.19 mg/Kg		0.24 <rdl< td=""><td>0.093</td><td>i i</td><td>0.925 mg/Kg</td></rdl<>	0.093	i i	0.925 mg/Kg
M=NT EPA3050A/6010B (06-02-004-002)																	
Arsenic, Total, ICP	e. G	-RDL	3.6	17.6 mg/Kg			4.6	22.7 mg/Kg		12 <rdl< td=""><td>4.8</td><td>24 mg/Kg</td><td></td><td>16 <rdl< td=""><td>4.7</td><td>23.3</td><td>23.3 mg/Kg</td></rdl<></td></rdl<>	4.8	24 mg/Kg		16 <rdl< td=""><td>4.7</td><td>23.3</td><td>23.3 mg/Kg</td></rdl<>	4.7	23.3	23.3 mg/Kg
Copper, Total, ICP	227		0.28	1.41 mg/Kg			0.36	1.81 mg/Kg		286	0.39	1.92 mg/Kg			0.37	1.86	1.86 mg/Kg
Zing Total ICP	S C		-				7.7			757	2.9	14.4 mg/Kg		ه اه	2.8	4 6	mg/Kg
M-OB EPA 14KARN9270C (7-1-0) - ONA	9/4		Ď.	L/o mg/kg	1240		0.46	2.2/ mg/Kg		1580	0.48	2.4 mg/Kg	813	3	0.47	2.33	2.33 mg/Kg
1.2,4-Trichlorobenzene		¢MDL	İ	44.9 ug/Kg		<mdl <<="" td=""><td>90</td><td>116 ug/Kg</td><td>9</td><td><mdl< td=""><td>49</td><td>124 ug/Kg</td><td></td><td>- WDL</td><td>51</td><td>99.1</td><td>ug/Ka</td></mdl<></td></mdl>	90	116 ug/Kg	9	<mdl< td=""><td>49</td><td>124 ug/Kg</td><td></td><td>- WDL</td><td>51</td><td>99.1</td><td>ug/Ka</td></mdl<>	49	124 ug/Kg		- WDL	51	99.1	ug/Ka
1,2-Dichlorobenzene		₹MDL	23	44.9 ug/Kg		√MDL	09	116 ug/Kg	0,	\dW>	2			<mdl< td=""><td>51</td><td>99.1</td><td>ug/Kg</td></mdl<>	51	99.1	ug/Kg
1,2-Diphenylhydrazine		√MDΓ	850	1590 ug/Kg		\dW>	2200	4400 ug/Kg	6	<mdl< td=""><td>2300</td><td>4680 ug/Kg</td><td></td><td><mdl< td=""><td>1900</td><td>3740</td><td>ug/Kg</td></mdl<></td></mdl<>	2300	4680 ug/Kg		<mdl< td=""><td>1900</td><td>3740</td><td>ug/Kg</td></mdl<>	1900	3740	ug/Kg
1,3-Dichlorobenzene		^MDL	l	44.9 ug/Kg		ΥMDΓ	90	116 ug/Kg	Ď,	<mdl< td=""><td>94</td><td>124 ug/Kg</td><td>0</td><td>≺MDL</td><td>5</td><td>1.66</td><td>ug/Kg</td></mdl<>	94	124 ug/Kg	0	≺MDL	5	1.66	ug/Kg
1,4-Dichlorobenzene		√MDL		22.5 ug/Kg		<mdl< td=""><td>29</td><td>58.2 ug/Kg</td><td>5</td><td><mdl< td=""><td>31</td><td>62 ug/Kg</td><td>6</td><td><mdl< td=""><td>25</td><td>49.5</td><td>ug/Kg</td></mdl<></td></mdl<></td></mdl<>	29	58.2 ug/Kg	5	<mdl< td=""><td>31</td><td>62 ug/Kg</td><td>6</td><td><mdl< td=""><td>25</td><td>49.5</td><td>ug/Kg</td></mdl<></td></mdl<>	31	62 ug/Kg	6	<mdl< td=""><td>25</td><td>49.5</td><td>ug/Kg</td></mdl<>	25	49.5	ug/Kg
2,4,5-Trichlorophenol		VWDI.	- 1			.MDL	i		Ō	<mdl< td=""><td>2800</td><td>5610 ug/Kg</td><td>-</td><td><mdl></mdl></td><td>2200</td><td>4490</td><td>ug/Kg</td></mdl<>	2800	5610 ug/Kg	-	<mdl></mdl>	2200	4490	ug/Kg
2.4.6-Trichlorophenol		₩DL	- 1			VWD[0	~MDL	3000	6080 ug/Kg	9	<mdl< td=""><td>2400</td><td>4860</td><td>ug/Kg</td></mdl<>	2400	4860	ug/Kg
2,4-Dichlorophenol		WDF		- 1		Å	3500		.0	JOM>	3700		5	V NDF	3000	5980	ug/Kg
2.4-Dimetnylphenoi		AMDI.				WD.	1500		9	IOM>	1600			WD .	1300	2620	ug/Kg
2,4-Dintrotoluene		אַרַאַ אַרַאַ	250	508 ug/Kg		¥	2200	1320 UG/Kg	O .	TOW S	00/200	1400 ug/Kg	5	JON O	250	1120	ug/kg
2-Chloronaphthalene		Ų V	Ì			Ş Ş			0.0	WDF	3700			WDF V	3000	2865	, K
2-Chlorophenol		<mdl< td=""><td></td><td>1360 ug/Kg</td><td></td><td>^MDL</td><td>1800</td><td></td><td>0</td><td>, MDL</td><td>1900</td><td>3740 ug/Kg</td><td></td><td><mdl< td=""><td>1500</td><td>2990</td><td>ug/Kg</td></mdl<></td></mdl<>		1360 ug/Kg		^MDL	1800		0	, MDL	1900	3740 ug/Kg		<mdl< td=""><td>1500</td><td>2990</td><td>ug/Kg</td></mdl<>	1500	2990	ug/Kg
2-Methylnaphthalene		≺MDL	.			<mdl< th=""><th>i</th><th>6150 ug/Kg</th><th>5</th><th><mdl< th=""><th>3300</th><th>6550 ug/Kg</th><th>-</th><th>YMDF.</th><th>2600</th><th>5230</th><th>ug/Kg</th></mdl<></th></mdl<>	i	6150 ug/Kg	5	<mdl< th=""><th>3300</th><th>6550 ug/Kg</th><th>-</th><th>YMDF.</th><th>2600</th><th>5230</th><th>ug/Kg</th></mdl<>	3300	6550 ug/Kg	-	YMDF.	2600	5230	ug/Kg
2-Methylphenol		≺MDL				ÅDP.	-		5	√MDI.	3700			<mdl< th=""><th>3000</th><th>5980</th><th>ug/Kg</th></mdl<>	3000	5980	ug/Kg
2-Nitrophenol		WDF.		2540 ug/Kg		VWD(D	WDF.	3500		-	VMDF	2800	5610	ug/Kg
4-Bromophenyi Phenyi Ether		WDF.	99,			JOH :			Di .		2100			JQW :	1700	3360	D/Kg
4-Methylphenol	1700	1700 CRDI		2710 ug/kg			3500	2030 ug/Kg	571 C		3000	2490 UG/Kg	20 5		240	500	0 V/S
Acenaphthene	1000	1000 <rdl< th=""><th></th><th></th><th></th><th>, MDL</th><th></th><th></th><th></th><th>Q V</th><th>1600</th><th></th><th>1</th><th>J QWV</th><th>1300</th><th></th><th>Z /2</th></rdl<>				, MDL				Q V	1600		1	J QWV	1300		Z /2
Acenaphthylene		≺MDL		2540 ug/Kg		<mdl< th=""><th></th><th></th><th>000</th><th>¢MDL</th><th>3500</th><th></th><th></th><th>-WDL</th><th>2800</th><th></th><th>ug/Kg</th></mdl<>			000	¢MDL	3500			-WDL	2800		ug/Kg
Aniline		≺MDL		3220 ug/Kg		<mdl< th=""><th>4200</th><th>8350 ug/Kg</th><th>0</th><th>^MDL</th><th>4400</th><th>8890 ug/Kg</th><th>f</th><th>~WDL</th><th>3600</th><th></th><th>ug/Kg</th></mdl<>	4200	8350 ug/Kg	0	^MDL	4400	8890 ug/Kg	f	~WDL	3600		ug/Kg
Anthracene	4170		340		ĺ		980			06	940	1870 ug/Kg	9360	0	750	1500	ug/Kg
Benzo(a)anthracene	19600		2				440	879 ug/Kg	30800	8	470	936 ug/Kg		0	370	748	ug/Kg
Benzo(a)pyrene	26100		220	508 ug/Kg			1			8	700				260		ug/Kg
Benzo(b)fluoranthene	40700							1320 ug/Kg		8	700	1400 ug/Kg		0	260	1120	ug/Kg
Benzo(g,n,l)perylene	25000		200	360 ug/Kg	20300			- 1		8 8	900				1500		g/Kg
מפוועס (יי)ווחס פווא ופוופ	70.04	İ		Bu/Bn and			200	1320 Ug/Kg	0078c 16	3	9	1400 ug/kg	00689		260	25	ng/Kg

		ᄌ		County	ĒYE	Environmental Lab Analytical Report	nme	ıntal	Lab	An	alytic	<u>교</u> 조	epoi	t						
PROJECT: 421168-40		KCIA_V_1670 KC AIRPORT	KCIA_V_1670 KC AIRPORT STORM W	ORM W	<u>ه ټ</u>		KCIA_V_1680 KC AIRPORT STORM W	1680 ORT ST	ORM W	<u>ĭŏ</u>		KCIA_V_1756 KC AIRPORT	KCIA_V_1756 KC AIRPORT STORM W	DRM W	<u> </u>		KCIA_V_1757 KC AIRPORT STORM W	1757 ORT ST	SRM W	
	Client Loc:	KCIA-1670-06 Jun 06, 2006	KCIA-1670-060606 Jun 06, 2006	ဖွ	O Ø	Client Loc: 1 Sampled: .	KCIA-1680-060606 Jun 06, 2006	30-06060 006	9	<u>ਹ %</u>	Client Loc: 1	KCIA-1756-00	KCIA-1756-060606	9	<u>5</u> 8	Client Loc: K	KCIA-1757-060606M	7-06060	W9	
		L39363-5 IN-1 INFSFD	, L		ב ב		L39363-6 N-I INFSEN	<u>.</u>		2 2		L39363-7	֓֞֝֟֝֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓		La S		L39363-8			
	isi	47.2	}		: %	Si	18.2	3		8_	<u>.v</u>	17.1	ğ		± '8	<u>'0</u>	IN-LINES 21.4	2		
Parameters	Value	Qual	al MDL R	ቯ	Cnits	Value	Qual	MDL	ក្ន	Units	Value	Qual	MDL	Z Z	Units	Value (Qual	MDL	ď	Units
COMBINED LABS		5			-		Ś	- DIY Weight basis	'n			ב ב	- Dry weignt basis	o.			, 0.0	- Dry Weight Basis		
Benzoic Acid		<mdl< th=""><th>1100</th><th></th><th>ug/Kg</th><th></th><th>≺MDL</th><th>2900</th><th>14700 ug</th><th>ug/Kg</th><th></th><th><mdl< th=""><th>3100</th><th>15600 ug</th><th>ug/Kg</th><th>٧</th><th><mdl< th=""><th>2500</th><th>12500</th><th>ug/Kg</th></mdl<></th></mdl<></th></mdl<>	1100		ug/Kg		≺MDL	2900	14700 ug	ug/Kg		<mdl< th=""><th>3100</th><th>15600 ug</th><th>ug/Kg</th><th>٧</th><th><mdl< th=""><th>2500</th><th>12500</th><th>ug/Kg</th></mdl<></th></mdl<>	3100	15600 ug	ug/Kg	٧	<mdl< th=""><th>2500</th><th>12500</th><th>ug/Kg</th></mdl<>	2500	12500	ug/Kg
Benzyl Alcohol		<mdl< th=""><th>510</th><th></th><th>ug/Kg</th><th></th><th>≺MDL</th><th>1300</th><th>2640 ug</th><th>⊔g/Kg</th><th></th><th><mdl< th=""><th>1400</th><th>2810 ug</th><th>ug/Kg</th><th></th><th>√MDL</th><th>1100</th><th>2240 L</th><th>ug/Kg</th></mdl<></th></mdl<>	510		ug/Kg		≺MDL	1300	2640 ug	⊔g/Kg		<mdl< th=""><th>1400</th><th>2810 ug</th><th>ug/Kg</th><th></th><th>√MDL</th><th>1100</th><th>2240 L</th><th>ug/Kg</th></mdl<>	1400	2810 ug	ug/Kg		√MDL	1100	2240 L	ug/Kg
Benzyl Butyl Phthalate	2610		210		ug/Kg	3040		1300		ug/Kg	3510		1400		⊔g/Kg	4090		1100		ug/Kg
Bis(2-Chloroethoxy)Methane		d ₩	1400	2880 ui	ug/Kg		AMDL	3700		ug/Kg		JON S	4000	7950 ug	ug/Kg	٧	«MDL	3200		ug/Kg
		2 4	300		2		AND!	0000		g Yg		VMC	3200		ng/Kg	۷ !	₩D L	2800		ug/Kg
618(2-Chloroksopropyr)Ether		<mdl< th=""><th>300</th><th>- 1</th><th>ug/Kg</th><th>- 1</th><th>- MDL</th><th>3300</th><th>- 1</th><th>ug/Kg</th><th></th><th>¢ΜDΓ</th><th>3500</th><th></th><th>ng/Kg</th><th></th><th>≪MDL</th><th>2800</th><th></th><th>ug/Kg</th></mdl<>	300	- 1	ug/Kg	- 1	- MDL	3300	- 1	ug/Kg		¢ΜDΓ	3500		ng/Kg		≪MDL	2800		ug/Kg
DIS(Z-EUTyRIEKYI)PTIRIARIE	39000	Ç	2/0	n occi	DQ/QD	64300	1	1500		ug/kg	00699		1600		ng/Kg	232000		1300		ug/Kg
Catharola	6640	Ž	0 0		gy/gr	4750	7	3300		ug/kg	i	<mdl< th=""><th>1400</th><th></th><th>ug/Kg</th><th>- 1</th><th>¢ΜDΓ.</th><th>9</th><th>2240 L</th><th>g, Kg</th></mdl<>	1400		ug/Kg	- 1	¢ΜDΓ.	9	2240 L	g, Kg
CALCASON	0100		200		6 V 6	4/50		200		DY/On	008/		0091		ng/Kg	10500		1300	2620 L	g,Kg
	32200	Č	ָּהָלָהָ קליק		הלאלה הלאלה	31300	Ģ	9 9		2 3	9/300	Č	940		ug/Kg	0010/	į	750		g/kg
Dibactora Nanthracene	7487	Z Z	207	23/U UG/Kg	ug/kg	7050		000	900 ng	0g/kg	- 1	<mdl< td=""><td>3300</td><td></td><td>ug/Kg</td><td></td><td><mdl< td=""><td>2600</td><td>5230 L</td><td>g/Kg</td></mdl<></td></mdl<>	3300		ug/Kg		<mdl< td=""><td>2600</td><td>5230 L</td><td>g/Kg</td></mdl<>	2600	5230 L	g/Kg
Dibenzofuran	1400 <bdi< td=""><td>i G</td><td>1200</td><td>2370 ug/Kg</td><td>20 2</td><td></td><td>JON S</td><td>200</td><td></td><td>לילים מילים מילים</td><td>5</td><td>CW.</td><td>3300</td><td>3270 UG</td><td>Da/kg</td><td>00671</td><td>2000</td><td>1300</td><td>0797</td><td>g kg</td></bdi<>	i G	1200	2370 ug/Kg	20 2		JON S	200		לילים מילים מילים	5	CW.	3300	3270 UG	Da/kg	00671	2000	1300	0797	g kg
Diethyl Phthalate		WDI	510	1070) X	!	J. I.	300		D/Kn			1400		US/Kg			1100	0520	0 N
Dimethyl Phthalate		¢MDL	930	1860 uc	uo/Ka	1	V V V	2400	4840 110	N/Ka	! *		2600		ug/Ko	' '		300		S N
Di-N-Butyt Phthalate		¢ΜDΓ	420	847 us	ug/Kg	2810		1100	2200 ug	ua/Ka		₩Ş	1200		uo/Ka		QW	930	1870	N. C
Di-N-Octyl Phthalate		√MDL	089		ug/Kg		MDΓ	1800	3520 ug/	ug/Ka		√MDL	1900	3740 ug	ua/Ka		-WDF	1500		έρ/Κα
Fluoranthene	52500		680	1360 ug	ug/Kg	53300		1800		ug/Kg	106000		1900	3740 ug	ug/Kg	132000		1500	2990 u	ug/Ka
Finorene	1700 <rdl< td=""><td>RDL</td><td>1100</td><td>1860 uç</td><td>ug/Kg</td><td></td><td>≺MDL</td><td>2900</td><td>4840 ug</td><td>ug/Kg</td><td></td><td><mdl <<="" td=""><td>3000</td><td></td><td>ug/Kg</td><td>1</td><td><mdl <<="" td=""><td>2400</td><td>4110 U</td><td>ug/Kg</td></mdl></td></mdl></td></rdl<>	RDL	1100	1860 uç	ug/Kg		≺MDL	2900	4840 ug	ug/Kg		<mdl <<="" td=""><td>3000</td><td></td><td>ug/Kg</td><td>1</td><td><mdl <<="" td=""><td>2400</td><td>4110 U</td><td>ug/Kg</td></mdl></td></mdl>	3000		ug/Kg	1	<mdl <<="" td=""><td>2400</td><td>4110 U</td><td>ug/Kg</td></mdl>	2400	4110 U	ug/Kg
Hexachlorobenzene		√MDL	22		ug/Kg		ΥMDΓ	150	292 ug/	ug/Kg	-	-MDL	160	311 ug	ug/Kg	V	√WDΓ	130		ug/Kg
Hexachlorobutadiene		<mdl< th=""><th>49</th><th>127 uç</th><th>ug/Kg</th><th></th><th>√MDL</th><th>160</th><th>330 ug/</th><th>ug/Kg</th><th>-</th><th>≺MDL</th><th>180</th><th>351 ug</th><th>ug/Kg</th><th>٧</th><th><mdl< th=""><th>140</th><th>280 u</th><th>ug/Kg</th></mdl<></th></mdl<>	49	127 uç	ug/Kg		√MDL	160	330 ug/	ug/Kg	-	≺MDL	180	351 ug	ug/Kg	٧	<mdl< th=""><th>140</th><th>280 u</th><th>ug/Kg</th></mdl<>	140	280 u	ug/Kg
Hexachloroethane		√MDL	1300		ug/Kg		<mdl< td=""><td>3300</td><td>6590 ug/Kg</td><td>/Kg</td><td></td><td>√MDL</td><td></td><td>7020 ug/Kg</td><td>/Kg</td><td></td><td><mdl< td=""><td>2800</td><td></td><td>ug/Kg</td></mdl<></td></mdl<>	3300	6590 ug/Kg	/Kg		√MDL		7020 ug/Kg	/Kg		<mdl< td=""><td>2800</td><td></td><td>ug/Kg</td></mdl<>	2800		ug/Kg
Indeno(1,2,3-Cd)Pyrene	23300		260		ug/Kg	18200		2000		Ş,	40200				ug/Kg	42500	l	1700	3360 u	ug/Kg
Isophorone		WDL.	1600	3220 uc	ug/Kg	* !	VMDF	4200	8350 ug/	ug/Kg		≺MDL			ug/Kg	V	i	-	7100 ug/Kg	y/Kg
Naphthalene		VMDI.	1200	2370 ug/Kg	/Kg		WDL.	3100	6150 ug/Kg	Ž,		≺MDL			ug/Kg	V	- 1			ng/Kg
All Misson di materia			1400	27.10 ug/kg	By/c		Jak .	3200		2		WDL.	- 1	/490 ug/	ng/Kg	v .		3000		ug/Kg
N Mitchell M Description		Jan 1	3 2	SSBU UG/Kg	BY A		Ž	5 4 6		ug/Kg		JOW.	- 1	9360 ug/	ug/Kg	v	-	- 1	7480 u	ug/Kg
N-Mitrocodinbowlemine			1700	1930 ug/Kg	5 4		<u>ק</u>	3 5		gy/go		MDE		4210 ug/Kg	21:	v '	-		3360 u	ng/Kg
Pentachlorobenol			3 2	SSSO UGAN	2 3			4500	orac uga	gy/go		WDF.	i	asen ng/	ug/kg	v '	ļ		/480 u	g/kg
Dhonouthood		1016			2	.	MICE	000		מליאַם		, MDL		/Bn naza	ng/kg	- 1	ζΜΩΓ.	1300	2000	ug/Kg
	00602	1000	240		6 S	00181		200	1/60 ug/	og/kg	33/00			1870 ug/	ug/Kg	47200		220	1500 ug/Kg	Ş.
	74600	NIC.	3 5	200	6V/G	00000	NIC.			6V/60	٠,	MDL			ng/kg		\ WD V	1/00		S.
r yielie	00011	9	0		E S		i	- [- 1	6V/6n	2000	1	ij		g/Kg	100000				ug/Kg
Pyrigine		-WIDIL	2300	4510 ug	ug/Kg		√WDL	6000	11700 ug/Kg	ş	•	<mdl <<="" td=""><td>6400</td><td>12500 ug/</td><td>ug/Kg</td><td>7</td><td>√MDL</td><td>5100</td><td>9950 u</td><td>ug/Kg</td></mdl>	6400	12500 ug/	ug/Kg	7	√MDL	5100	9950 u	ug/Kg
M=OR WDOE NWTPH-DX (7-3-06-001)										-	:									
Diesel Range (>C12-C24)	2000 H,TA	۲.	53	53 mc	mg/Kg	2100 H,TA	H,TA	140	140 mg/	mg/Kg	8100 H,TA	H,TA	32	150 mg/Kg	γkg	6300 H	H,TA	120	120 mg/Kg	g/Kg
Lube Oil Range (>C24)	8500 H,TA	۲ <u>.</u>	23	53 mç	mg/Kg	8200	Ή, Τ	140	140 mg/Kg	χ̈	25000	H,TA	150	150 mg	mg/Kg	13000 H,TA	Į.	120	120 mg/Kg	g/Kg
 Not converted to dry weight basis for this narameter 																				
למומו יירוכי המייונים					=					=					=					=

King County Environmental Lab Analytical Report

PROJECT: 421168-40	Locator: Descrip: Cilent Loc: Sampled: Lab ID: Matrix: % Solids:	KCIA_V_1757 KC AIRPORT KCIA-1757-06 Jun 06, 2006 L39396-1 IN-LINESED 57.6	KCIA_V_1757 KC AIRPORT STORM W KCIA-1757-060606E Jun 06, 2006 L39396-1 IN-LINESED	TORM \	≥
Parameters	Value	Qual . _{Dry}	al MDL F - Dry Weight Basis	RDL 18i8	Units
COMBINED LABS					
Total Organic Carbon	4510		1000	2080	mg/Kg
M=CV SM2546-G (03-01-007-002)					
Total Solids *	57.6	İ	0.005	0.01	%
Mercury, Total, CVAA		≺MDL	0.035	0.345	mg/Kg
M*MT EPA3050A6010B (06-02-004-002)	THE STATE OF THE S	Q.		2.0	
Copper Total ICP	30.6		0.35	174	mg/Ko
Lead, Total, ICP	9.5	<rdl< td=""><td>2.6</td><td>13.1</td><td></td></rdl<>	2.6	13.1	
Zinc, Total, ICP	40.3		0.43	2.19	mg/Kg
M=OR EPA 3550B/8270C (7:3-01-004)					
,2,4-Trichlorobenzene		WDF:	o.	3.68	ug/Kg
1,2-Dichlorobenzene		WDF	6.	3.68	ug/Kg
1,2-Diphenyinydrazine		Jan .	69	139	ug/Kg
o no operzene		אַרָּאָרָ אַרְאָרָאָ	» (0.0	646
1,4-Dichlorobenzene		N S	0.92	2. 2. (2. (2. (2. (2. (2. (2. (2. (2. (2. (ug/Kg
2,4,3-1 richlorophenoi		AMDIT OF THE	3 8	9 5	ug/kg
2.4-Dichlocophenol			5 5	222	S/Ko
2,4-Dimethylphenol		VMDL	6	97.2	ua/Ko
2,4-Dinitrotoluene		<mdl< td=""><td>2</td><td>41.7</td><td>ug/Kg</td></mdl<>	2	41.7	ug/Kg
2,6-Dinitrotoluene		<mdl< td=""><td>69</td><td>139</td><td>ug/Kg</td></mdl<>	69	139	ug/Kg
2-Chloronaphthalene		≺MDL	110	222	ug/Kg
2-Chlorophenol		¢MDL	99	11	ug/Kg
2-Methylnaphthalene		√MDΓ	26	194	ug/Kg
2-Methylphenol		ÅÐL	110	222	ug/Kg
2-Nitrophenol		.MDL	10	208	ug/Kg
4-Bromophenyl Phenyl Ether		√MDL	63	125	ug/Kg
4-Chlorophenyl Phenyl Ether		Å₽₽	6	181	ug/Kg
4-Methylphenol		≺MDL	110	222	ug/Kg
Acenaphthene		«MDL	49	97.2	ug/Kg
Acenaphthylene		<mdl< td=""><td>100</td><td>208</td><td>ug/Kg</td></mdl<>	100	208	ug/Kg
Aniline		Å₽	130	8	ug/Kg
Anthracene	62.8		28	55.6	ug/Kg
Benzo(a)anthracene	495		4	27.8	ug/Kg
Benzo(a)pyrene	741		21	41.7	ug/Kg
Benzo(b)fluoranthene	1310		21	41.7	ug/Kg
Benzo(g,h,i)perylene	736		92	111	⊔g/Kg
			;		

	_	King (Sounty	King County Environmental Lab Analytical Report
PROJECT: 421168-40	Locator. KCIA, Descrip: KC Al Client Loc: KCIA, Sampled: Jun 0 Lab ID: L3933 Matrix: IN-LIA	KCIA_V_1757 KC AIRPORT STORM W KCIA-1757-060606E Jun 06, 2006 139396-1 IN-LINESED 57.6	OSE W	
Parameters	Value Qua	Qual MDL R	RDL Units	
COMBINED LABS Benzoic Acid	280 <rdl< td=""><td>92</td><td> 464 ua/Ka</td><td></td></rdl<>	92	 464 ua/Ka	
Benzyl Alcohol	-MDL			
Bis(2-Chloroethoxy)Methane	TOW>	_	236 ug/Kg	21.00
Bis(2-Chloroethyl)Ether	- CMDI		208 ug/Kg	
Bis(2-Ethylhexyl)Phthalate	63900		97.2 ua/Ka	22 0
Caffeine	TOW>		83.3 ug/Kg	
Carbazole	132	49	97.2 ug/Kg	
Connection	1010	78		
Oppositation Dibenzo(a,h)anthracene	<u>8</u>	. 64	97.2 ua/Ka	
Dibenzofuran	<mdl <<="" td=""><td></td><td>194 ug/Kg</td><td></td></mdl>		194 ug/Kg	
Diethyl Phthalate	Tdw⊳	1 :	83.3 ug/Kg	N CO
Dimethyl Phthalate	¬WDF		153 ug/Kg	
Oi-N-Butyl Phthalate	WDL 440	35	69.4 ug/Kg	
Fluoranthene	1910		111 un/Kg	
Fluorene	<wdl< td=""><td></td><td>153 uo/Ka</td><td></td></wdl<>		153 uo/Ka	
Hexachlorobenzene	VWDL >	4.7	9.24 ug/Kg	
Hexachlorobutadiene	TOW>		10.4 ug/Kg	
Hexachloroethane	<wdi< td=""><td></td><td>208 ug/Kg</td><td></td></wdi<>		208 ug/Kg	
ndeno(1,2,3-Cd)Pyrene	684		125 ug/Kg	
Nanhthalana	- WIDE	3 6	254 UG/Kg	
Nitrobenzene	-WDL		222 ug/Kg	
N-Nitrosodimethylamine	¬WDF		278 ug/Kg	
N-Nitroscdi-N-Propylamine	-WDF	63	125 ug/Kg	
N-Nitrosodiphenylamine	TQW>		278 ug/Kg	
Pentachlorophenol	NDI~	. 47	186 ug/Kg	
Phenanthrene	703	28	55.6 ug/Kg	
	`√WDF		125 ug/Kg	
Pyrene	1450		55.6 ug/Kg	
	√MDL	190	370 ug/Kg	
M=0R WDOE NWTPH-DX (7-3-06-001)				
Diesel Range (>C12-C24)	1600 H,TA	43	43 mg/Kg	
Lube Uil Range (>C.24) * Not converted to dry weight basis for this				
parameter				